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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,672	09/30/2005	Hiroimi Matsumura	278224U/S3X PCT	5573
22850 7590 03/11/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER FOGARTY, CAITLIN ANNE				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
03/11/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/551,672

Applicant(s)

MATSUMURA ET AL.

Examiner

CAITLIN FOGARTY

Art Unit

1793

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6,14 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6,14 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. Claims 1, 5, 6, 14, and 17 are pending where claims 14 and 17 have been amended. Claims 2 – 4, 7 – 13, 15, 16, and 18 – 20 have been cancelled.

Status of Previous Objections and Rejections

2. The objection to claims 14 and 17 has been withdrawn in view of the amended claims filed December 22, 2009.

The 35 U.S.C. 103(a) rejection of claims 1, 5, 6, 14, and 17 as being unpatentable over the "Effects of Friction Stir Welding on Microstructure of 7075 Aluminum" by Rhodes et al. in view of "Corrosion-fatigue crack growth in friction stir welded Al 7050" by Pao et al. has been maintained.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

4. Claim 1 is objected to because of the following informalities: the status identifier of claim 1 as "Currently Amended" is incorrect because claim 1 has not been amended. The correct status identifier for claim 1 is "Previously Presented". Appropriate correction is required.
5. Applicant is advised that should claims 5 and 6 be found allowable, claims 14 and 17 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that

they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1, 5, 6, 14, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the "Effects of Friction Stir Welding on Microstructure of 7075 Aluminum" by Rhodes et al. (cited in IDS) in view of "Corrosion-fatigue crack growth in friction stir welded Al 7050" by Pao et al.

The amendments to instant claims 14 and 17 did not change the scope of the claims but merely corrected the dependency. Therefore, Rhodes in view of Pao is applied to claims 1, 5, 6, 14, and 17 as set forth in the September 22, 2009 Office action.

Response to Amendment

8. The declaration under 37 CFR 1.132 filed December 22, 2009 is insufficient to overcome the rejection of claims 1, 5, 6, 14, and 17 based upon 35 U.S.C. 103(a) as set forth in the last Office action because: the declaration does not provide the processing conditions for the vacuum melting, powder sintering, or spray forming methods. The processing conditions are important, particularly for spray forming, because it is not clear what kind of spray forming Applicant is referring to in the declaration. For example, spray forming may include thermal spray forming or plasma spray forming.

Therefore, the processing conditions must be provided in order to demonstrate unexpected results for spray forming in the sputtering target of the instant invention and in order to clarify the type of spray forming used in the instant invention.

Response to Arguments

9. Applicant's arguments filed December 22, 2009 have been fully considered but they are not persuasive.

Arguments are summarized as follows:

According to the 1.132 Declaration, a micro-analysis of sputtering targets formed by each of vacuum melting, powder sintering, and spray forming reveals that spray forming produces a distinctive fine grained microstructure. Since this fine grained microstructure is not produced by the comparative vacuum melting and powder sintering techniques, it is respectfully submitted that this represents distinct structural characteristic of spray formed materials that could be distinguished by one skilled in the art. Moreover, since neither Rhodes nor Pao is directed to a spray formed sputtering target, it is respectfully submitted that the claims recite structure that defines over this prior art.

Examiner's responses are as follows:

The 1.132 Declaration is insufficient to overcome the 35 U.S.C. 103(a) prior art rejection as discussed above in the "Response to Amendment."

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793

CF